

What is claimed is:

1. A method for preventing interference in a radar level gauging system comprising at least two radar level gauges arranged to measure a filling level of a product kept in a container, the method comprising the steps of:

5 transmitting microwave pulses towards a surface of said product;
receiving said microwave pulses reflected from said surface;
determining the filling level of said product based upon said received microwave pulses;

10 providing information with said microwave pulses; and,
communicating using said information for controlling the measurement pulses of said at least two radar level gauges.

15 2. A method according to claim 1, wherein said information is provided by making packets of said microwave pulses, whereby the packets have different lengths for different information.

3. A method according to claim 1, wherein said information is used for controlling the timing of the measurement pulses of said at least two radar level gauges.

20 4. A method according to claim 1, wherein said information is used for controlling the pulse repetition frequency of the measurement pulses of said at least two radar level gauges.

25 5. A method according to claim 1, wherein said information is used for controlling the polarization of the measurement pulses of said at least two radar level gauges.

30 6. A method according to claim 1, wherein said information is used for controlling the frequency bands with which said at least two radar level gauges transmit and receive microwaves.

7. A method according to claim 3, wherein the method further comprises the steps of:

detecting any pulses from one or more other radar level gauge(s) present in the container;

if pulses from one or more other radar level gauge(s) are detected, attempting to establish contact with said one or more other radar level gauge(s) by transmitting said information and listening for an acknowledgment from said one or more other radar level gauge(s);

5 if contact is established, determining in which order said at least two radar level gauges are to measure by defining at least a first and a second radar level gauge.

8. A method according to claim 7, further comprising the step of providing an alert signal indicating that one or more other radar level gauge(s) is/are detected but no
10 contact is established.

9. A method according to claim 7, wherein the step of detecting is repeated with a predetermined time interval.

15 10. A method according to claim 7, further comprising the steps of:
measuring the filling level of said product using the defined first radar level gauge;

sending a message with said information to the defined second radar level gauge when the measuring using said first radar level gauge is done;

20 measuring the filling level of said product using said second radar level gauge;
sending a message with said information to said first radar level gauge when the measuring using said second radar level gauge is done.

11. A method according to claim 10, wherein said first radar level gauge is
25 waiting for said message from said second radar level gauge during a predetermined period of time and if no message is received within that time period said first radar level gauge starts measuring in a stand alone mode.

12. A method according to claim 10, wherein said message is a stop word.
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13. An arrangement in a radar level gauge for measuring a filling level of a product kept in a container, wherein said arrangement comprises:

a transmitter arranged to transmit microwave pulses towards a surface of said product;

a receiver arranged to receive said microwave pulses reflected by said surface;
measurement circuitry coupled to the transmitter and receiver for
determining the filling level of said product based upon the received microwave pulses;
communication means arranged to provide information with said microwave
5 pulses and to transmit said information to one or more other radar level gauge(s) and to
receive information from one or more other radar level gauge(s).

14. An arrangement according to claim 13, wherein said communication
means is arranged to make packets of said microwave pulses having different lengths for
10 different information.

15. An arrangement according to claim 13, further comprising storage
means arranged to store said information.

15 16. An arrangement according to claim 13, wherein said communication
means is arranged to detect any pulses from one or more other radar level gauge(s)
present in the container, and to attempt to establish contact with said one or more other
radar level gauge(s).

20 17. An arrangement according to claim 16, further comprising alerting
means arranged to provide an alert signal indicating that one or more other radar gauge(s)
is/are detected but no contact is established.

25 18. An arrangement according to claim 13, wherein said information is
arranged to prevent interference between said radar level gauge and one or more other
radar level gauge present in said container by controlling the timing of the measurement
pulses from said radar level gauge and one or more other radar level gauge.

30 19. An arrangement according to claim 13, wherein said information is
arranged to prevent interference between said radar level gauge and one or more other
radar level gauge present in said container by controlling a pulse repetition frequency of the
measurement pulses from said radar level gauge and one or more other radar level gauge.

20. An arrangement according to claim 13, wherein said information is arranged to prevent interference between said radar level gauge and one or more other radar level gauge present in said container by controlling a polarization of the measurement pulses from said radar level gauge and one or more other radar level gauge.

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21. An arrangement according to claim 13, wherein said radar level gauge is arranged to measure the filling level of said product by using at least two different frequency bands and said information is arranged to prevent interference between said radar level gauge and one or more other radar level gauge present in said container by controlling said frequency bands.

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22. A level gauging system comprising at least two radar level gauges arranged to measure a filling level of a product kept in a container, wherein at least one of said at least two radar level gauges comprises:

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a transmitter arranged to transmit microwave pulses towards a surface of said product;

a receiver arranged to receive said microwave pulses reflected by said surface;
measurement circuitry coupled to the transmitter and receiver for determining the filling level of said product based upon the received microwave pulses;

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communication means arranged to provide information with said microwave pulses and to transmit said information to one or more other radar level gauge(s) and to receive information from one or more other radar level gauge(s).